

These hot winds are not merely of local interest to the colonists, but of general interest in matters affecting the atmospheric circulation of the continent of Australia, and as affording facilities to the meteorologists of that region in the study of whirlwinds and other cyclonic movements, the correct theory of which science has still to propound. The frequency of these hot winds at Wilson's Promontory, the most southern point in Victoria and completely enveloped by the sea, is noteworthy, as also the instance which occurred on March 14, when on the surface the wind was cool and damp, whereas a hot wind was blowing 50 feet high on the lighthouse balcony. The discussion of the wind observations is a valuable piece of work. These show an excess of atmospheric movement in the warmer months and during the hottest hours of the day, the velocity of the wind in summer increasing from 7'13 miles an hour from 2 to 3 A.M. to 15'97 miles from 2 to 3 P.M. During 1876, which was remarkable for the absence of sun-spots, the aurora australis was only seen once, viz., between 3 and 4 A.M. of April 26 at Kyneton.

GEOGRAPHICAL NOTES

THE Germans have so deservedly earned a distinguished reputation as scientific geographers, that it is quite pleasing to catch one very seriously tripping in geographical matters. In Philip Leopold Martius's "Das Leben der Hauskatze und ihrer Verwandten" (Weimar: B. F. Voigt, 1877), in the part of the work treating of the varieties of the domestic cat, appears (s. 61) the following extraordinary statement: "Die schwanzlose Katze von der Insel Man im stillen Ocean wenn nicht das *Kap Man auf Borneo* darunter zu verstehen, ist wohl noch nie zu uns nach Deutschland gekommen, obgleich sie auf der Katzenausstellung in London einst vertreten war." The author goes on to express his earnest wish that a pair of these great rarities, Manx cats, may be procured and exhibited at some zoological garden. Manxmen will hardly thank him for placing their native isle in the Pacific Ocean and confounding them with Polynesians, but the suggestion as the result of ponderous research that after all perhaps such a place as the Isle of Man does not exist, but that its mythical development has arisen from a mistake as to a cape of the same name in Borneo is too delicious altogether, and so ingenious and thoroughly German that it must needs be recorded for the benefit of the readers of NATURE.

DR. NACHTIGAL, has communicated to the Berlin Geographical Society full particulars as to the misfortune lately suffered by Gerhard Rohlfs' expedition in North Africa. Rohlfs and his companions, who were plundered and detained while exploring the Kufara Oasis, and compelled to return to Bengazi, were relieved by the intervention of the Foreign Office under assurance that complete reparation would be made them. The explorers' travelling effects, along with gifts sent by the German Emperor for the Sultan of Wadai, require to be supplemented and renewed, though it is almost certain the expedition will still be able to proceed in accordance with its previous plan. Dr. Lenz, it was announced at the same meeting, had lately gone to Morocco on a geological survey, which he would subsequently extend eastwards into the Sahara.

AT the opening of the Geographical Society's Session on Monday last, the Earl of Northbrook, the president, briefly reviewed the work of travellers and geographers during the past few months, and spoke in very eulogistic terms of Prof. Norden-skjöld's great achievement. The most noteworthy feature, however, in the address, was the statement that news had been received that morning from the expedition despatched by the African Exploration Fund Committee to the head of Lake Nyassa. Nothing had been heard of its whereabouts since the death of Mr. Johnston, except a rumour as to its progress, gathered by an Arab from native sources, and lately communicated by Dr. Kirk through the Foreign Office. Mr. Thomson reports that he has arrived, within comparatively few days' march of the lake, in the country of Uhehe. Lord Northbrook read some interesting extracts from Mr. Thomson's journal which will, no doubt, soon be published by the Society. Mr. Clements R. Markham then read a summary which he had drawn up of a paper on the exploration of Central Sumatra, prepared by Prof. P. J. Veth, President of the Dutch Geographical Society. One of the main results of the late Dutch expedition, was the discovery that the Jambi River, which should be known by its native name of Batang Hari, was navigable for nearly 400 miles. It was announced that at the next meeting a paper would be read which had been written by

Captain A. H. Markham, descriptive of his Arctic cruise during the summer in the *Isbjörn* and of the work of the Dutch Expedition in the *Willem Barents*. Captain Bruijne, its commander, has kindly promised to attend the meeting. Lord Northbrook also stated that hopes were entertained of Dr. Emil Holub being able to give an account of his remarkable journeys in South Central Africa on January 12.

IN an account which he has sent home to the Church Missionary Society, of the tribes on the road to Mpwapwa, Mr. J. E. Last tells us that the third tribe from the coast is that of the Wanguru. In going from Saadani to Mpwapwa caravans pass through the southern limits of their country. These Wanguru seem to be a scattered people, but they are found in great numbers living among the mountains north of Kwa Masengo, one of their chief villages. There they cultivate the ground on a large scale, growing rice plentifully and all the common native produce; ginger is found in great abundance. They also grow a great deal of tobacco, and three native medicines not known among other tribes. One is the seed-pod of the *mdaka*, in form very like a piece of rough stick, and when ground it is very hot to the palate. The other two are vegetable fats produced from seeds, and are much in vogue as medicines at Zanzibar, as well as on the coast and inland. The French Roman Catholic mission have had a station among this tribe for some little time.

NEWS has been received from Zanzibar that another expedition has started from Bagamoyo for the interior. It is despatched by M. Lavigerie, Archbishop of Algiers, and consists of eighteen Europeans, of whom six are laymen. Their object is to reinforce the Algerian missionary stations at Ujiji and at King Mtesa's capital. The expedition is under the leadership of the Abbe Guyon.

THE new number of *Les Annales de l'Extrême Orient* contains papers on the Belep group and the fauna of the Indian Archipelago, the former of which is illustrated by a map.

THE fame of the newly discovered sapphire mines in Siam is so great that great numbers of Burmese and Shans are said to be flocking thither. The mania appears also to have attacked part of the European community in Rangoon.

THE November number of *Petermann's Mittheilungen* contains a reduced copy of the geological map of India from Medlicott and Blanford's "Preliminary Sketch." The narrative of Dr. Regel's journeys in Central Asia is concluded, and is followed by an interesting account of the trade and industry of Verchojansk and Kolymsk circles, in North-East Siberia, and an eclectic article on the region about the sources of the Santa-Cruz, in Patagonia, with a map illustrating Moreno's journeys in 1876-7. There is also a map accompanying the paper on Dr. Regel's journeys.

AMONG the papers in the September number of the *Bulletin* of the Paris Geographical Society, the one of most scientific value is Commander Perrier's lecture on the measurement of longitudes in France. M. Ed. Cinere describes his journey in South America, mainly the United States of Columbia, in 1875-6. There are two interesting letters on the Oxus question, by M. Woeikoff, with a note by M. Vivien de St. Martin, and a paper by the Abbe Durand on Pere Dupuyre's journeys in South Africa. There is also an interesting unpublished letter of Dagelet, the astronomer attached to the expedition of La Perouse.

THE general council of Constantine (Algeria) has appointed a commission for determining the *trace* of the Transaharian railway. It has been already determined by the commission to publish a *projet*, by M. Peltreau, on the section from Constantine to Juggurt by Biskra and Oued Birh.

IN the last session of the Geographical Society of Paris a very interesting discussion took place on the possibility of using elephants from India in South African exploration. It was considered more advantageous to try to use the native elephants after being trained on the Indian method. It was stated that a number of African elephants had been also sent to India in order to be tamed there. M. Soleillet remarked that elephants can nowhere be met in India except in well-watered places, so that they must be used in Africa, in countries offering some analogy with such regions where they can live without difficulty.

M. PAUL SOLEILLET will leave very shortly for St. Louis (Senegal) in order to proceed on his intended journey to Segou-Sokkoro and thence to Timbuctoo. He has received funds from

M. Ferry, the Minister for Public Instruction, enabling him to take with him a trained botanist. In his last address before the Geographical Society of Paris he entered into many interesting details showing that the negro populations of the region he is to visit were half-civilised races susceptible of intercourse with European nations.

THE public subscription for M. Michu-Maclay gives very good results. On November 1 the sum had already reached, at the *Golos* office alone, above 2,786 roubles (about 278*l.*)

UNIVERSITY AND EDUCATIONAL INTELLIGENCE

CAMBRIDGE.—The anniversary dinner of the Cambridge Philosophical Society is to take place in the new hall of Pembroke College on November 29, at 7.15, under Prof. Newton's presidency. The occasion will be clouded by many memories of Professors Maxwell and Garrod.

The Botanic Gardens Syndicate are to obtain plans and estimates for the erection of a curator's house in the Garden.

There is much questioning as to Dr. Power's justification for regarding the coming changes as a "revolution," especially in laying down the office of Vice-Chancellor. A reform in which the University concurs to a great extent can hardly be regarded with such grave anxiety. Dr. Power, in the speech referred to, said that the new comparative anatomy buildings had been for a considerable period in use, although the dispute as to the respective liabilities of the University, the architect, and the contractors for the accident to the roof and floors is not yet settled. The recent addition to the rooms for human anatomy had proved satisfactory. Dr. Power again warned the University of the rapid rate of increase of permanent expenditure and the very uncertain nature of the income, depending so largely on the fees and dues from members of the University. He acknowledged that the department of chemistry had been existing on a starvation allowance, and that some professors and lecturers had been paying heavy expenses out of their own pockets rather than make fresh demands on the already overburdened finances of the University.

Dr. E. H. Perowne enjoys the singular felicity of having become Master of Corpus Christi and Vice-Chancellor in one year. Mr. G. F. Browne, the senior proctor, desires to maintain strongly the college system as against the lodging-house system, especially in regard to discipline. But this would not involve any diminution in the urgent need for more thorough University science teaching, and the more complete recognition as a duty, of banishing the mere schoolboy and the idler, or the mere athlete, to the schools or elsewhere, instead of employing such ability as is here set to lecture in the ABC of subjects.

At Christ's College it is proposed to give open scholarships and exhibitions in natural science for entrance in October, 1880, by examination on Friday, March 19, and following days. He must show that he will probably be able to pass the "Little-go" at latest by the end of his third term of residence. A candidate may gain a scholarship for mathematics or classics in combination with natural science. No candidate will be admitted who has kept any actual terms by residence, but there will be no limitation of age. In mathematics there will be papers in Euclid, algebra, plane trigonometry, and conic sections, geometrical and analytical. Candidates for natural science scholarships must all take chemistry, and also either physics or biology in addition. The principles of spectrum analysis are included in theoretical chemistry, physical measurements and manipulations in physics; also statics, dynamics, optics, heat, and electricity; in biology the conditions are exceedingly well stated, as—*Physiology*: Fundamental principles of the chief physiological processes of plants and animals; general histology of their principal organs; *Morphology*: Fundamental principles of morphology as illustrated by forms representing the principal classes of the vegetable and animal kingdoms; principles of the classification of plants and animals; practical microscopical examination of the various tissues; dissection and description of typical plants and animals. The examinations will be held in common with those at Emmanuel and Sidney Sussex Colleges, as before.

The last Report of the Board of Natural Sciences Studies was to be offered for confirmation to-day (Thursday), at 2 P.M., and it was expected to be non-placeted, although it might be carried on a division.

PROF. BURDON-SANDERSON announces that he will begin a course of weekly lectures at University College, Gower Street, to ladies, on physiology, on Friday the 21st, at 4 P.M. The first lecture will be public.

MR. P. R. SCOTT LANG, M.A., B.Sc., F.R.S.E., who has for some years been assistant to the Professor of Natural Philosophy—Prof. Tait—in the University of Edinburgh, has been appointed by the Queen to the chair of mathematics in the University of St. Andrews.

MR. MARK FIRTH has signified his wish to found a chair of chemistry in connection with Firth College, Sheffield. He proposes to invest a sum sufficient to produce an annual income of 150*l.*, and this, together with the fees of students, will amount, it is believed, to a sufficient sum. Mr. Firth proposes that the appointment shall be first filled by Dr. Carnelly, Owens College, Manchester.

THOSE of our readers interested in the higher education of girls may be glad to know that a Calendar of Queen's College, Harley Street, has been published.

THE *Golos* learns, according to the *Times* Berlin correspondent, that the Russian Government intends thoroughly changing the statutes of the University of Dorpat, in Livonia, that strong bulwark of German science and culture. Among the proposed alterations now under consideration in the Imperial Council, the chief one aims at restricting certain liberties hitherto enjoyed by German-speaking students and subjecting them to police surveillance similar to that now in force at all other Russian Universities.

SCIENTIFIC SERIALS

The American Journal of Science and Arts, October.—An examination of the chemical composition of amblygonite, by Mr. Penfield, leads him to give a new and more simple formula for the mineral. He shows that the hydroxyl group in amblygonite is isomorphous with fluorine.—From general geological sections in Iowa, Mr. McGee concludes that residuary clays and others of equal compactness were passed over by a thick ice-sheet with or without serious disturbance, and that the plane of contact between glacial drift and subjacent residuary clay is not always clearly defined.—Mr. Dale describes a peculiar fault at Rondout.—The first portion of a research, by Mr. Gibbs, on the vapour densities of peroxide of nitrogen, formic acid, acetic acid, and perchloride of phosphorus, is given, and the two remaining papers are from English publications (Crookes on radiant matter and Draper on oxygen in the sun).

The American Naturalist, October.—John A. Ryder, an account of a new genus of minute paupod myriapod (with figures).—Wm. Barbeck, on microscopical fungi attacking our cereals.—C. L. Herrick, fresh-water entomostraca (describes and figures *Diaptomus longicornis*, n.sp.).—S. K. Lum, notes on the thrushes of the Washington Territory.—John Ford, the leather-turtle.—S. L. Frey, Were they mound-builders?—Recent literature: Proceedings of scientific societies.

The American Quarterly Microscopical Journal, vol. i. No. 4.—Prof. S. A. Forbes, on some sensory structures of young dogfishes.—Dr. C. L. Anderson, spores with a spore glossary.—Dr. J. J. Woodward, on the oblique illuminator, and on a new apertometer.—F. H. Wenham, on Prof. Smith's apertometer.—John Mayall, on measuring aperture.—R. Hitchcock, aperture, angular and numerical.—J. D. Hyatt, on the tongue of the honey-bee.—Thomas Taylor, on oleomargarine and butter.—W. C. Hubbard, Haeckel v. Virchow.—Prof. Stowell, the origin and death of the red blood-corpuscle.—B. Eyferth, on the simplest forms of life.—An announcement from the publishers states "that the existence of the *Quarterly* ceases with this number." The editor found that it would be impossible for him to give the journal the necessary supervision during the coming year, hence the necessity of this suspension.

Journal of the Franklin Institute, October.—Prof. Thurston here publishes an investigation of the strength of American timber, several varieties of which (white and yellow pine, locust, black walnut, white ash, white and live oak) were submitted to testing machines in the Stevens Institute. The results show that American timber has a constructive value equal, if not decidedly superior, to European timber. (The numbers were almost invariably higher than those of Barlow, Tredgold, or